

Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)



FAKULTI KEJURUTERAAN ELEKTRIK & ELEKTRONIK

🕽 😏 🎯 🖗 庙 🖸 UTHM Johor



Communication Engineering Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)





Dr. M. Ramlee Kamarudin (Top Research Scientists Malaysia 2020)

Associate Professor

mramlee@uthm.edu.my https://sites.google.com/uthm.edu.my/ramlee-kamarudin/

Research Areas

- 1. Antennas Design
- 2. 5G/6G Antennas and Propagation
- 3. Antenna Measurements Expert
- 4. Wireless Bridging Expert & Consultant

Research Details

 Antennas for 6G-Terahertz bands
 Intelligent Meta-Surface Reflector for 6G-Terahertz Band applications
 Meta-Surface Reflector for signal and coverage extension for frugal internet connectivity

4. Other antennas design and measurements.





Dr. Maisara Binti Othman

Associate Professor maisara@uthm.edu.my 010-7604317

Research Area

- 1. Optical Sensors
- 2. Optical-Wireless Communication
- 3. Advanced Modulation Formats
- 4. Augmented Reality

Research Details



Cr + Ag sensing layer can detect different concentration of honey in terms of water content, but the silver layer is easily oxidized and eroded after several usage.

SU-8 has been deposited to protect the silver layer. The SU-8 is successfully protect the silver layer from erode, yet producing higher silver oxide, which can degrade the performance of the SPR sensor.

The existence of AgSiN layer is successfully reduce the silver oxidation. However, the AgSiN layer is easily eroded due to higher concentration of honey.

The additional layer of SU-8 can protect the AgSiN layer from erode and can be used for several time as well as can reduce the optical bandgap.

UTHM Johor

ww.uthm.edu.my #uthmiohor

SPR Sensor for Water Content Detection for Malaysian Stingless Bee Honey

- 1. Study Effect of AgSiN and SU-8 Polymer Protective Layer On Prism-based Surface Plasmon Resonance (SPR) Sensor For Water Content Detection In Malaysian Stingless Bee Honey
- 2. Remedial Module for Augmented Reality (ReModAR)





Dr Mohammad Faiz Liew Abdullah

Professor

faiz@uthm.edu.my

012-7280599



Optical Wireless Communication (OWC) Optical Fiber Communication Design Railway Communication System Digital Signal processing Analog Circuit Design

Research Scope :

Visible Light Communication (VLC) Receiver Design Solar Cell Design Advanced Modulation Techniques HEVC & Watermarking Techniques



Optical Attocells Deployments



Optimized Curved and Double Curved Track G2T-FSO Model Parameters

Product pictures



JTHM Johor





Dr. Mariyam Jamilah Homam

Senior Lecturer mariyam@uthm.edu.my

Research Area

Ionosphere and Radiowave Propagation
 Space Science

Research Details

 Characterisation of the polar and equatorial ionosphere
 Effect of solar activities to the earth
 Prediction of ionospheric parameters using neural network









Dr. Syarfa' Zahirah Sapuan

Lecturer syarfa@uthm.edu.my

Research Area

Electromagnetic Compatibility (EMC)
 Antenna Calibration
 Antenna Design

Research Details

- 1. EMC in Railway
- 2. EMC Management
- 3. Antenna and Detector for Ambient Measurement





MS2

DA4



Dr. Lukman Hanif Muhammad Audah

Lecturer hanif@uthm.edu.my

Research Area

- 1. Wireless Communications and Networks
- 2. Vehicular Communications
- 3. IP Quality of Service (QoS)
- 4. Internet Traffic Engineering, Future Internet
- 5. Network Management, Data Security & Privacy
- 6. Satellite Communication

Research Details

- 1. 5G Communication Systems Massive MIMO, Advanced Modulation and Filtering, Interference Mitigation Techniques.
- 2. Vehicular Communications Load Balancing, Routing, QoS.
- 3. QoS routing and scheduling in heterogeneous networks
- 4. Internet of Things (IoT) smart home & campus applications

WE PRODUCE PROFESSIONALS





UTHM Johor







Dr. Ansar Jamil Lecturer ansar@uthm.edu.my

Research Area

1. Wireless Sensor Networks (WSNs)

2. Internet of Things (IoTs)

Research Details

- 1. Routing Protocols in WSNs
- 2. Mobility in WSNs
- 3. Duty cycle mechanism in WSNs
- 4. Deployment of IoT





UTHM Johor





Dr. Fauziahanim Che Seman

Associate Professor <u>fauziahs@uthm.edu.my</u> Tel no : 019-

3115400

https://community.uthm.edu.my/fauziahs New fully funded PhD vacancies are available

Research Area

NOW!! Please contact me for more details

- 1. Microwave Absorber and **Frequency Selective Surface**
- 2. Fault Detection and Cable Characteristics in **Copper Access Network**
- 3. Terahertz Spectroscopy for **bio-molecular sensing**
- 4. Machine Learning in Communication Technologies and Beyond

Research Details

- 1. Salisbury Screen Absorber for **Defense Applications**
- 2. **Pattern Recognition** using Time Domain Reflectometry Signals in CAT 3 Copper Cables
- 3. Fabrication of **Metamaterial Devices** in **Terahertz** Spectroscopy
- 4. Antenna Design with periodic structures
- 5. Expert DSL optimisation system using Machine Learning











Dr. Zuhairiah Zainal Abidin

Associate Professor zuhairia@uthm.edu.my

Research Area

- 1. Antenna Design
- 2. Microwave Sensing
- 3. Artificial Intelligence

Research Details

- 1. Electromagnetic Bandgap (EBG) for Wearable and MIMO Antenna
- 2. Antenna for 5G/6G
- 3. Metamaterial Biosensor as sensing element
- 4. Harvesting Energy

WE PRODUCE PROFESSIONALS

5. Machine Learning for Wearable Devices for Indoor Localization









Dr. Norshidah Katiran

Senior Lecturer norshida@uthm.edu.my

Research Area

- 1. Resource Allocation in Wireless Networks
- 2. Cooperative communications

Research Details

- 1. Network MIMO/Coordinated Multipoint (CoMP)
- 2. Small cell cooperation and interference managemen
- 3. Joint design and optimization of resource allocation







Dr. Khairun Nidzam Ramli

Associate Professor khairun@uthm.edu.my

Research Area

- 1. Computational Electromagnetics
- 2. Fault Detection and Cable Characteristics in
- Copper Access Network
- 3. Wireless Communications

Research Details

- Finite-Difference Time-Domain, Method of Moments
 Pattern Recognition using Time Domain Reflectometry
 Signals in Copper Cables
 FC Antenna Design
- 3. 5G Antenna Design







Dr. Yee See Khee Lecturer skyee@uthm.edu.my

Research Area

1. Dielectric measurement for material characterization

2. Microwave Sensing

Research Details

 Prediction of Ammonia and Iron Concentration in Water Based on Complementary split ring resonator.
 Blood Glucose Detection Based on Defected Ground structure







Dr. Roshayati Yahya @ Atan

Lecturer rhayati@uthm.edu.my

Research Area

Antenna design
 Specific Absorption Rate (SAR)

3. Microwave Imaging

Research Details

1. Design, characterisation, and performance of textile antennas

- 2. Brain tumour detection using scattered signal analyses
- 3. SAR in human head for microwave imaging applications





Dr. Saizalmursidi Md Mustam

Lecturer saizal@uthm.edu.my

Research Area

- 1. Nanocommunication and Networks
- 2. Electromagnetic Compatibility (EMC)

Research Details

- 1. Channel Modelling of Multilayer Diffusion-**Based Molecular Communication**
- 2. Electromagnetic Emission and Reduction of **Digital Circuits**
- 3. Electromagnetic Bandgap (EBG)



Length (cm)

Transmitter

Length (cr

UTHM Johor



Receptor

Receiver

Low

Layer-w

concentration

 $c(r, t)_{max}$

Delay spread, τ_h

10 dB

Nanomachine (RN)

2019



Dr. Shipun Anuar bin Hamzah

Senior Lecturer shipun@uthm.edu.my

Rectenna measurement setup



Horn antenna (Transmitting antenna)

Antenna (X)	Distance (R)	
	60 cm	100 cm
2x1 array antenna	0.300 V	0.125 V
4x1 array antenna	0.323 V	0.157 V

1-2 August 2019 | Hotel Istana, Kuala Lumpur

MICROSTRIP PATCH ARRAY RECTENNA



2 x 1 array rectenna

Electromagnetic Compatibility (EMC) Faculty of Electrical and Electronic Engineering





UTHM Johor

Research Area

1. Passive & Active Antenna Design 3. Energy Harvesting

Research Details

- 1. 5G Antenna Design
- 2. Shark fin antenna design for car
- 3. Antenna with harmonic traps
- 4. High gain antenna





Ts. Dr. Jong Siat Ling

Lecturer sljong@uthm.edu.my

Research Area

- 1. Radiowave Propagation
- 2. Satellite Communication
- 3. UAV communication

Research Details

- 1. Characteristic of rain profile
- 2. Tropospheric propagation of millimeter-waves
- 3. Investigation of performance Propagation Impairment Mitigation Technique
- 4. Prediction of rain attenuation
- 5. Path loss prediction

WE PRODUCE PROFESSIONALS







UTHM Johor





Dr. Noran Azizan Cholan

Senior Lecturer noran@uthm.edu.my





Research Area

- 1. Fiber Lasers/Microwave Optics
- 2. Optical Sensors
- 3. Modelling of optical devices

Research Details

- 1. Single and multiwavelength fiber lasers
- 2. Milimeter and microwave generation utilizing optical technique
- 3. Jaundice/temperature sensing with optical technique
- 4. Modelling lasers and amplifiers

RF Combiner Low Pass Attenuator Oscillator

Nasing Circuit

Frequency Knob Amplitude Knob

$$\frac{dP_p}{dz} = -4\gamma \sqrt{P_p^2 P_s P_l} \sin(\theta) \tag{1}$$

$$\frac{dP_s}{dz} = 2\gamma \sqrt{P_p^2 P_s P_i \sin(\theta)}$$
(2)

$$\frac{dP_i}{dz} = 2\gamma \sqrt{P_p^2 P_s P_i} \sin(\theta) \tag{3}$$

$$\frac{d\theta}{dz} = \Delta\beta + \gamma (2P_p - P_s - P_i)$$

$$+ \gamma \left(\sqrt{\frac{P_p^2 P_i}{P_s}} + \sqrt{\frac{P_p^2 P_s}{P_i}} - 4\sqrt{P_s P_i} \right) \cos(\theta) \quad (4)$$





Ts. Sharifah Binti Saon

Senior Lecturer sharifa@uthm.edu.my

Research Area

Digital Signal Processing
 Data Communication

3. Internet of Things (IoT)

Research Details

1. Room Material Identification System

- 2. Visible Light Communication
- 3. Application of IoT

*Visit my <u>HOMEPAGE</u> for details.





250mm

50mm

250mm

50mm

50mm

250mm

Communication Engineering

Wood



Dr. Ariffuddin bin Joret Senior Lecturer ariff@uthm.edu.my

Research Area

- 1. Digital Signal Processing
- 2. Neural Network
- 3. Ground Penetrating Radar

Research Details

- 1. Modelling of GPR system
- 2. Development of GPR system
- 3. Image processing and classification



Embedded

iron

Equipmen

nsor Device

0

Synthetic PM GPR Radargram using ARSL System

scanning position



UTHM Johor





Output

Communication Engineering



Dr. Hajar Aminah binti Ali

Lecturer aminahh@uthm.edu.my Resource Allocating Network with Locality Sensitive Hashing (RAN-LSH)

Hash Table Hash Value $h(x_k)$ h(x. h(x. h(x)... Resource Allocating Network (RAN) â Prototype £. x. \hat{X}_{k-1} Input Margin Flag 0 0 Select Calculate Keep or LSH RBFs Hash Value Discard Data Selection Sequence of Sequence of Large Data Chunks Selected Data



UTHM Johor

Research Area 1. Neural Network

<u>Research Details</u>

1. Pattern Recognition, Detection and Classification

2. Image Processing

3. Digital Signal Processing







Dr. Elfarizanis Binti Baharudin

Lecturer elfa@uthm.edu.my

Research Area

 Dielectric Measurement and Materials Characterization
 RF and Microwave Devices

Research Details

- 1. Microwave Absorber Based on Renewable Material
- 2. Biocomposite Material Characterization
- 3. Antenna and Microwave Devices







Dr. Maslina Binti Yaacob

Lecturer maslinay@uthm.edu.my

Research Area

1. Optical Fiber Sensing 2. Gas Sensing 3. Absorption Spectroscopy

Research Details

- 1. Ozone concentration
- 2. Ultraviolet Photo Absorption
- 3. Absorption cross section



Temperature-dependent absorption cross-sections of O3



UTHM Johor





Mr. Ezri Mohd Industry Fellow ezri@uthm.edu.my

Research Area

1. RF Devices 2. Microwave Engineering 3. IoT

Research Details

Microwave Filter and Resonator Design
 Material Charaterization













UTHM Johor



Dr. RAHMAT TALIB

Lecturer <u>rahmat@uthm.edu.my</u>

Research Area

Optical Communication
 Visible Light Communication (VLC)

Research Details

- 1. Filter Bank MultiCarrier (FBMC) in VLC
- 2. Multiplexing and Modulation technique
- 3. VCSEL system
- 4. Finite Difference Method (FDM)



Mechatronic and Robotic Engineering Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)







Dr. Hisyam Bin Abdul Rahman

Lecturer arhisyam@uthm.edu.my





<u>Research Area</u>

Medical Electronics Engineering System, Rehabilitation robot, Predictive analysis, Rehabilitation and Assessment Strategy, Robot Adaptive Control.

Research Details

- 1. Design and Development of Rehabilitation Robot for Stroke Patients.
- 2. Quantitative assessment of Hand Function After Stroke.
- 3. Adaptive control system of Rehabilitation Robot for Stroke Patients









Ir. Ts. Dr. Mohd Razali Md Tomari Associate Professor

mdrazali@uthm.edu.my

Research Area

Artificial Intelligent, Computer Vision, Human Computer Interfacing & Robotics

Research Details

- 1. . Deep learning for Medical Image Diagnosis
- 2. . Vision Based Deep Learning Platform for Automated Recycle Waste Collection of Reverse Vending Machine
- 3. Auto-dosing system and IoT Monitoring.









Dr. Chia Kim Seng, CEng, MIET Senior Lecturer

kschia@uthm.edu.my

Research Area

Machine Learning, Transfer Learning, Smart Sensor, Real-time embedded system, Near Infrared Spectroscopic Analysis

Research Details

1. Machine learning in Near infrared spectroscopic analysis for agriculture, soil analysis, food, fruits, medical, etc.

2. Enhancing the predictive accuracy using calibration transfer, transfer learning, ensemble philosophy, genetic algorithm, etc.

3. Smart Size Sorting System for pineapples.

4 Machine learning in functional Near infrared (fNIR) for BCI







Dr. Tee Kian Sek Associate Professor tee@uthm.edu.my

<u>Research Area</u>

Gait/Posture Monitoring, Mechatronic and Automation, Neural Network, PLC and Industrial

Research Details

- 1. A visual guide for lower limb prosthetic alignment
- 2. Road Recognition System For Autonomous Vehicle Using Artificial Neural Network
- 3. Dynamic calibration of a gyroscope using a compound pendulum
- 4. Design of an efficient back-drivable semi-active above knee prosthesis
- 5. Comparison of two static calibration methods of an inertial measurement unit

6. Triaxial Accelerometer Static Calibration WE PRODUCE PROFESSIONALS



Figure-4. PC1-PC2 plots of all subjects in week1 (A1,B1,C1) and week2 (A2,B2,C2) respectively.







Dr. Dirman Hanafi Burhanuddin

Associate Professor dirman@uthm.edu.my

Research Area

Intelligent Control, System Identification, Neural Network, Electrical Power Plant Control, Mechatronic and Robotics..

Research Details

- 1. An Online Neuro Model System Identification for Nonlinear and Complex Dynamics System
- 2. A Neuro Model System Identification for Realistic Dynamics of A Quarter Car Suspension System
- 3. Design of Self-Balancing System and Graphical User Interface (GUI) Control for Quadcopter Stability Performance Development
- 4. Design of Intelligent System Identification for a Quarter Car Nonlinear Model
- 5. Development of Micro-Hydro Power Plant Voltage Controller Based on Fuzzy Logic
- 6. Multifingered Robot Hand in Industrial Robot Application using Teleoperation











Localization and Mapping Multi agent System Ocean Observation System Aerial /Surface Vehicle

<u>Research Details</u>

Dr. Herdawatie binti Abdul Kadir

Senior Lecturer watie@uthm.edu.my



igure 4.2: Contours of Static Pressure of the bla







- 2. Development of a Robust and Sustainable Malaysian Integrated Ocean Observation System
- 3. Numerical Investigation for Cooperative Multi blimp System
- 4. Data association for RF-VSLAM for ocean observation using blimp
- 5. Decentralized cooperative communication framework for heterogeneous multi agent system

1. Cooperative Consensus Simultaneous localization and Mapping for Multi Blimp System

6. Features detection and matching for Visual Simultaneous Localization and Mapping (VSLAM)





Dr. Mohamed Najib bin Ribuan

Senior Lecturer mnajib@uthm.edu.my

Research Area

Soft Robotics, Mobile Robots, Biomechatronics, Instumentation and Control, Sensor and Actuators **Research Details**

- 1. Development of Soft Robot for Medical Assistive Device
- 2. Development of X-ray Transparent Soft Robot
- 3. Human-Machine-Interface (HMI) Controller for Soft Robot
- 4. Optimum Octopedal Configuration for Omnidirectional Locomotion
- 5. Wearable Training Device for Paraplegic Patient
- 6. Mobile platform for Inventory Management System









Research Area

Sensing Technology Instrumentation & Measurement Tomograpghy **Research Details**

Dr. Elmy Johana Binti Mohamad

Associate Professor elmy@uthm.edu.mv

> Energy Saving Smart Classroom with Bessed ESSCIOT@UTHM19 Chromo Perset By Constant Classed ESSCIOT@UTHM19 Constant Classed ESSCIOT@UTHM19 Classed ESSCIOT ESSCIO



1. Portable Flow Inspector

2. Development of Portable Magnetic Sensor For Steel Pipe Crack Damage and Defect Inspection 3. Industrial Single Photon Emission Computed Tomography (SPECT) System for Liquid-Liquid Two Phase Flow Study in a Pipeline

4. Water Column Damage Visualization Using Pulse Magnetic Flux Leakage Tomography System for The Water Industry

5. Development of Optical Sensor for Pineapples Fruit Inspection

6.A New Fuzzy Digital Image Reconstruction Algorithm for Electrical Capacitance Tomography in Smart Oil and Gas Pipeline Fault & Leakage Diagnosis

7. IoT Based Smart Laundry Management Tool

8. IoT Based Energy Saving Smart Classroom UTHM

9. Smart Agriscan

WE PRODUCE PROFESSIONALS



UTHM Johor




Ts. Mohamad Fauzi bin Zakaria

Lecturer mfauzi@uthm.edu.my 018 - 4640050

Research Area

- 1. Embedded Operating System ROS and RTOS
- 2. Embedded Robotics System
- 3. Industrial Internet of Things (IIoT)

Research Details



- 1. Industrial Internet of Things (IIoT): Data monitoring and control system using real-time embedded system for Industrial Automation System.
- 2. Online Status Monitoring and Management System for MDB-based Vending Machine.
- 3. Development of Robot Operating System (ROS) based Mobile Robot and Micro Air Vehicle (MAV) for Service Robotics Applications.
- 4. Simultaneous Localization and Mapping (SLAM) and Dynamic Obstacle Avoidance System for Quadrotor Micro Air Vehicle.





Dr. Rosli bin Omar

Associate Professor roslio@uthm.edu.my

<u>Research Area</u>

- 1. Control Systems
- 2. System Identification
- 3. Embedded Systems
- 4. Autonomous Systems

<u>Research Details</u>

- 1. Control systems design
- 2. System identification and parameter estimation (continuous & discrete)
- 3. Optimal 2D & 3D path planning for unmanned aerial vehicles







2D Path Planning

3D Path Planning





Dr. Rafidah Bte Ngadengon@Ngadungon

Senior lecturer rafida@uthm.edu.my

Research Area

Control Systems (Continuous & Discrete)
System Identification

Research Details

- 1. Sliding Mode Control
- 2. Multirate output Feedback
- 3. Composite Nonlinear Feedback
- 3. Research on inverted pendulum system & steer by wire System







Dr. Mohammad Afif bin Ayob

Lecturer afifayob@uthm.edu.my

Research Area

3D Printing & CNC
Robotic Arm & Mobile Robot
Deep Learning

Research Details

1. Deep learning in 3D printing.

- 2. Headless navigation of a mobile robot.
- 3. Kinematics control of a robotic arm & mobile robot.













Dr. Abu Ubaidah bin Shamsudin

Lecturer ubaidah@uthm.edu.my

Research Area

- 1. Autonomous Robot in Extreme Disaster
- 2. Functional Electrical Stimulation controller
- 3. Autonomous Robot For Human Service

Research Details

1. Deep Learning for Recognition and 3D Localization for pick and place for Service Robot.

2. Deep Reinforce Learning High State Space and Action Controller for Quad Propulsion Flying Snake Robot.

- 3. 3D mapping and Localization for Autonomous Vehicle.
- 4. Two-Stage Hybrid A* for Autonomous Vehicle.
- 5. FES Phase Different Fuzzy Logic Controller for Stroke Rehabilitation













Dr. Mohd Hafiz A. Jalil @ Zainuddin

Senior Lecturer hafizz@uthm.edu.my

Research Area

- 1. Advanced Control System
- 2. System Identification/Modeling

Research Details

- 1. Application Advanced Adaptive Control for Nonlinear System.
- 2. Application Fractional Order PID Control for Time Varying System.
- 3. Improvement on Parameter Regulation for Process Industry .
- 4. Development Advanced Control for Rehabilitation Robot.
- 5. Parameter Estimation for Process Industry.
- 6. Modeling and Control Buck boost converter.







Step 1

Step 4



Dr Noor Azizi Mardi

Lecturer azizim@uthm.edu.my

Research Area

Modeling of systems, System identification, System control & simulation, CNC control, Urban agriculture, Control engineering applications

Research Details

- 1. Mechanization and automation of hydroponics systems for urban crop production
- 2. Novel Opposite Motion System of CNC Machine-tool
- Up-scaling Of Lubrication Control System For Automatic Machine 3. **Tools Linear Guideways**
- Novel Fluid Servo Valve With High Precision Micro Piezoelectric 4. Actuator





AAAA



DR JAMALUDIN BIN JALANI

Assoc. Professor jamalj@uthm.edu.my https://community.uthm.edu.my/jamalj

Research Area

- Robotic, Mechatronics & Control
- Human Robot Interaction, Sensor.
- Linear and Non-Linear Control.
- Bio-Inspired Robot, Rehab. Robot
- Positioning, Force and Compliance Control

Research Details

- Development of Bio-Inspired Robot, Robotic Hand, Prosthetic Hand, Exoskeleton Robot.
- Application of Various Controller: PID, Sliding Mode, NCTF, Adaptive, Fuzzy and Neural Network.
- Sensor Design and Application

WE PRODUCE PROFESSIONALS







UTHM Johor



UTHM Johor

Medical Electronic Engineering Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)







Dr. Muhammad Mahadi Bin Abdul Jamil

Associate Professor mahadi@uthm.edu.my

Research Area

Biomedical Engineering - Pulse Electric Field Study on Cancer Cell Medical Image Processing - Computational Forensic Study on Human Bone Sample

Rehabilitation Engineering - Online Patient Rehabilitation Monitoring System **Research Details**

https://community.uthm.edu.my/mahadi https://drmahadiuthm.wordpress.com/ https://scholar.google.com/citations?user=OE8uUFIAAAAJ&hl=en







Dr. Nurmiza Othman

Lecturer nurmiza@uthm.edu.my

Research Area

Biomedical Engineering, Assistive Device Technology, Magnetic Particle Imaging, Sensors and Transducers, Superconductor Engineering, Microelectronic Fabrication

Research Details

1. Magnetic Particle Imaging System for Breast Cancer Detection

- 2. Magnetic Coil Construction for Three Dimensional Imaging System
- 3. Image Reconstruction Using Numerical Simulation Method
- 4. Pulsed Eddy Current System for Non-destructive Testing Application
- 5. Development of Smart Shoulder Massager Using Shiatsu Technique





Coils for Generating a Magnetic Field





Ts. Dr. Muhammad Hazli bin Mazlan Senior Lecturer mhazli@uthm.edu.my

Research Area

Biomechanics, Bone Modelling and Remodelling, Gait Analysis, Rehabilitation, 3D Printing, Medical Imaging, Image Processing, Occupational Safety and Health.

Research Details

- 1) Finite Element Analysis of human musculoskeletal disorder
- 2) Development of spinal implants based on 3D printing technology
- 3) Development of motion analysis device and system
- 4) Safety in a workplace based on IOT applications

















Ir. Dr. Nabilah binti Ibrahim Associate Professor nabilah@uthm.edu.my

Research Area

Medical Electronics Engineering System, Biomedical Image and Signal Processing, Biomedical System and Instrumentation

Research Details

- Investigation on early diagnosis of cardiovascular disease
- Application of machine learning using medical images an biomedical signals (MATLAB & PYTHON)
- Computer simulation on blood flow mechanism
- Further details: 4

https://community.uthm.edu.my/nabilah







Dr. Farhanahani Binti Mahmud

Senior Lecturer farhanah@uthm.edu.my

Research Area

- Medical electronic system
- Simulation/modeling of electrophysiological /physiological processes
- Operations research for health care

Research Details

Hardware modeling & simulation of cardiac excitation and conduction, simulation-based analysis of glucose-insulin dynamics, machine learning in women's healthcare, NIRS-based blood flow monitoring system, slipped-disk monitoring/analysis system, patient outcomes prediction.



UTHM Johor





Dr. Wan Suhaimizan bin Wan Zaki

Lecturer mizan@uthm.edu.my

Research Area

Wearable sensors for health monitoring. Development of textile based optical fibre sensors. Thick film sensors fabrication.

Research Details

Integrate optical fibre sensors in textile for wearable sensor application. The system will be monitor vital signs such as blood pressure, heart rate and SpO_2 . On top of that, a new sensor configuration can be develop through thick film sensor fabrication for environment monitoring such as humidity, CO and many more.





Dr. Ashok Vajravelu Senior Lecturer Email: ashok@uthm.edu.my

Research Area:

- Biomedical Signal Processing
- Biomedical Instrumentation
- Optimization using ANN
- Optimization using Wavelet

Research Details:

- Design, Fabrication, Optimization, and Testing of LASER and Sensors based Indigenous Noninvasive Blood Glucose Level Monitor....
- Brain Activities and its Signal Analysis....







Dr. Mohamad Nazib Adon

Senior Lecturer nazib@uthm.edu.my

Research Area

Electroporation System. Modelling and Simulation for Cell Architecture. Cell Microscopy Engineering.

Research Details

Real Time Imaging Technique for Cell Electroporation Process. Modelling method involves analytical (MATLAB) and numerical (CST®EMS) methods.







Dr. Audrey Huong Associate Professor audrey@uthm.edu.my





Research Area

Biomedical Engineering, Biomedical Signals Processing, Biomedical Imaging and Optics, Biomedical System and Instrumentation

Research Details

1. Investigation of Acute and Chronic Wound Healing Process

2. Diagnosis of Carbon Monoxide Poisoning

- 3. Noninvasive Prediction of Breast Cancer Stages
- 4. Early clinical prediction of arteriosclerosis







WIRELESS MAGNETOMETER FOR VEHICLE DETECTION (MASTER PROJECT)

SUPERVISOR: ASSOC. PROF. IR. DR. SOON CHIN FHONG CO-SUPERVISOR: DR. YEE SEE KHEE Contact: soon@uthm.edu.my

Wireless magnetometer

Field Distortion by ferrous metals: - A magnetometer is used for measurement of magnetic field direction in space. For metal detection, It is possible to distort the uniform field (Figure 2) generated by the magnetometer by interacting with a 'highly permeable' metal in this field. Highly-permeable ferrous metals allows maximum amount of flux lines corresponding to an external magnetic field to pass through them.



Figure 1: Wireless sensor network of magnetometer for detection of vehicle at different directions



field pattern (a)

FAKULTI KEJURUTERAAN ELEKTRIK & ELEKTRONIK

OKUS=KUALITI=ENDAH=ETIKA

Figure 3: (a) Field disturbance by ferrous object and (b)the magnetic field pattern.

Block diagram of Wireless magnetometer





Figure 4: Block diagram of a wireless magnetometer sensor node and gateway







Figure 3: The measured magnetic field pattern



Figure 5: A block diagram of the wireless magnetic coil network system. (a) The visible distance between the LORA wireless magnetometer sensor nodes and Gateway is about 20-50 meter visible distance between gateway and computer console is about 100-200 meters, and Configuration in wireless LORA in STAR network.





Dr. Wan Mahani Hafizah binti Wan Mahmud

Lecturer wanmahani@uthm.edu.my

Research Area

Biomedical Engineering, Medical Image Processing, Ultrasound Imaging and Telemedicine

Research Details

Investigation of medical image features
Processing and analysis of medical images
Development of computer aided diagnosis
Development of patient monitoring system





Dr. Nur Anida binti Jumadi Senior Lecturer

anida@uthm.edu.my

Research Area

Medical Electronics Engineering Svstem. Medical Signal and Image Processing. Rehabilitation & Sports Engineering and **Biomedical Optic Simulation**

Research Details

- Noninvasive fetal heart rate and oxygen saturation
- Investigation of optode design using optical simulation 2.
- Application of machine learning using medical images and data for prediction 3. analysis

6356

USB

₹

- IoT based combat sport agility device and wrist rehabilitation 4.
- Fuzzy assessment tool for dyslexia screening 5.
- Further details: https://community.uthm.edu.my/anida 6.





Computer Engineering Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)









Dr. Siti Zarina Mohd Muji

Associate Professor szarina@uthm.edu.my



Research Area

Optical Tomography, Sensor Application, Embedded System

Research Details

- 1. Real time system of Optical Tomography for Solid Gas Application
- 2. Non Invasive Jaundice Monitoring System using Optical Sensing Technique
- 3. Pipe Leakage detection using piezoelectric sensor
- 4. Microcontroller-based design and implementation
- 5. Object Tracking for Industrial Application using C#
- 6. Multithreading Socket Programming using Python





Ir. Dr. Abd Kadir Bin Mahamad

Associate Professor kadir@uthm.edu.my

<u>Research Area</u>

Smart Campus, IoT, Embedded System, Image Processing, Prediction of Machine Failure.

Research Details

CCTV Monitoring and Surveillance Traffic Management & Routing Solution Development of Optimum Controller for PV System Diagnosis and Prognosis of Rotating Machinery Room Material Identification System From Photo Images Smart City/Campus, Big Data and Blockchain Applications







Ts. Dr. Mohd Norzali Bin Hj Mohd

Senior Lecturer norzali@uthm.edu.my

Research Area

Image Processing, Pattern Recognition, Computer vision, Biometric, Assistive technology

Research Details

Member of Embedded Computing System (EmbCos) Research Group Member of Biomedical Engineering Modelling and Simulation (BIOMEMS) Research Group https://community.uthm.edu.my/norzali









Dr. Nor Surayahani Binti Suriani

Senior Lecturer nsuraya@uthm.edu.m

Research Area

Image Processing, Pattern Recognition, Computer Vision



Research Details

Fall Detection, Bio-inspired Visual Cortex Semantic Event Recognition Semantic Object Detection Video Analytics





Dr Radzi Bin Ambar

Lecturer aradzi@uthm.edu.my

https://community.uthm.edu.my/aradzi

Research Area

Mechatronics, Mobile Robotics, Assistive Devices IoT, Agriculture Techs

Research Details

1.Mobile robotics (surface, underwater, air) 2.IoT application for agriculture 3.Elderly monitoring using human following robot 4.Rehabilitation device using Android-based app 5.Gesture detection using wearable device 6.Image processing for agriculture







Mobile robotics: Underwater vehicle-Manipulator System

for robotic application

Mobile robotics: Master-slave system Mobile robotics: Camera-based human following robot











Dr. Mohamad Hairol Bin Jabbar

Lecturer hairol@uthm.edu.my

Research Area

3D IC, FPGA/ASIC Design, MPSOC, NOC Parallel Computing, Computer Architecture

Research Details

WE PRODUCE PROFESSIONALS

Energy efficient architecture, Parallel architecture and programming





HM Johor





Dr. Chew Chang Choon Senior Lecturer

chewcc@uthm.edu.my

Research Area

Internet of Things (IoT), Embedded System, Digital System Design, Wi-Fi

Research Details

Single board computer: Arduino, Raspberry Pi, etc. Android apps, IoT hardware monitoring, Wi-Fi measurement/testing













Dr. Chua King Lee Senior Lecturer

chua@uthm.edu.my



Research Area

IC-EMI, FPGA Design, Embedded Systems

Research Details

FPGA Chip Electric Field Measurement Using GTEM Cell Color Bars Calibrator for VGA Using DE2 Board GUI Development for Robotic Arm Control Near-Field Scanning System Using Robotic Arm







Dr. Afandi Ahmad Associate Professor afandia@uthm.edu.my

Research Area

Embedded Computing Systems
Medical Diagnostic Imaging
Bioeletronic Instrumentation

Research Details

1. FPGA-based design and implementation

- 2. Dynamic partial reconfiguration
- 3. 3-D medical imaging
- 4. Biomechanics sports engineering
- 5. Hardware accelerator







Real-time rowing simulator – high performance low injury





3-D medical image compression system



THM Johor





Dr. Chessda Uttraphan

Senior Lecturer chessda@uthm.edu.my

Research Area

VLSI Design Automation,
Digital System Design,
Embedded systems

Research Details

1. VLSI routing and buffer insertion algorithm delay, power and noise modelling.

2. Logic design, microprocessor design.

- 3. Optimization algorithm, implemented
 - embedded platform.



in





Algorithms for VLSI Design Automation





UTHM Johor





Ir. Ts. Dr. Norfaiza Fuad

Associate Professor

norfaiza@uthm.edu.my

https://community.uthm.edu.my/norfaiz

Research Area

Bio-well Instrument, Energy Performance Index, EEG and Brain signal,

Human Potential, Image Processing Mobile Learning, Microcontroller, , System Development (Web-based), Data Encryption, Tawhidic Paradign

Research Details

- 1. Advanced signal processing
- 2. 3-D physiological signal
- 3. Classification
- 4. EEG Pattern Recognition



Theta Band



Bio-Well Instruments: the digital image stored in Bio-Well archive to be process using

Bio-Well Algorithm and analyses under Bio-Well Analysis







UTHM Johor



loT

100%

Discharging

18/30

More Info

Computer Engineering



Mohd Helmy Abd Wahab

Senior Lecturer helmy@uthm.edu.my

Research Area

1. Artificial Intelligence 2. Wireless computing and IoT 3. Data Mining

Research Details

1. Neural network

- 2. Internet of Things
- 3. GSM-based application
- 4. Database design and development
- 5. Web mining and its application





UTHM Johor





Ts. Dr. Shamsul bin Mohamad

Senior Lecturer shamsulm@uthm.edu.my

Research Area

Crowd Simulation
Machine Learning
Artificial Intelligence

Research Details

1. Intelligent Agent

- 2. Agent Based Modelling and Simulation
- 3. Social Force Model
- 4. Internet of Things





Wall



UTHM Johor





Dr. Nik Shahidah Afifi Binti Md Taujuddin

Senior Lecturer shahidah@uthm.edu.my

Research Area

Image Processing, Image Analysis

Research Details

1. Image compression using measured thresholding

2. Enhancement techniques for visibility improvement in digital images

3. Image segmentation for object detection

4. Agriculture disease detection and classification.











UTHM Johor




Dr. Khalid Isa Senior Lecturer halid@uthm.edu.my

Research Area

Underwater Robotics
Computational Intelligence
Bio-inspired Engineering

Research Details

1. Autonomous Underwater Vehicles Systems

- 2. Biologically Inspired Control
- 3. Computational Intelligence Algorithms









UTHM Johor





Munirah Binti Ab. Rahman

Lecturer munira@uthm.edu.my

Research Area

Network-on-Chip (NoC), Wireless Network-on-Chip (WiNoC), Digital Design, Internet of Things (IoT)

Research Details

- 1. Routing, adaptive routing in NoC/WiNoC
- 2. Agent-based modelling in NoC/WiNoC
- 3. Load balancing, congestion aware, congestion estimation.
- 4. Applications of IoT





Ts. Dr. Suhaila binti Sari Senior Lecturer suhailas@uthm.edu.my

Research Area

Image Processing Image Analysis Pattern Recognition

Research Details

Image Enhancement Image Denoising **Biomedical Imaging Edge Detection System** Low-light Condition Image Enhancement & Analysis Image Processing Learning Application **Underwater Image Dehazing & Enhancement**

WE PRODUCE PROFESSIONALS









UTH	DENOISING FOR POSSON NOISE REMOVAL IN LOW-LIGHT CONDITION DIGITAL MAGE (DTSU WE-MATH & DTSU KU-WE-WATH)				Institut 200201 Institut suste Calo No N Back Institute 24 (2010) Institute 24 (2010) Institute 24 (2010)	
					Chillon Chillon Chillon Chillon Chillon	
Sec. 1	Sec. 1		Com John		Internet Charges	
	A				8 141 (April 14 14 (April 14) 2004 (April 14) 21 (April 14	
and the second	The second		New York	2000 147 m	Massive -5:80 /b Exc. Million -2:20 /b Exc.	







EDGE INT DEVICES

HOPS, AIRPORTS

UTHM Johor



Danial Md Nor

Ph.D in Electrical Engineering (UTHM, Malaysia) Docteur en Informatique Et Applications (ULR, France) Senior Lecturer

danial@uthm.edu.my

Research Area

Image Processing, EEG and Brainwave Signal, Embedded System. IoT. Artificial Intelligence

Research Details

Image and Video Feature Extraction, CCTV, CBIR. EEG Pattern Recognition, Medical Image Analysis QCA, Sensors Network, IoT System Design and Security Neural Network, Machine Learning, Classification, Forecasting.





Microelectronic Engineering Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)







Dr. Nurfarina Zainal

Lecturer nurfarina@uthm.edu.my

Research Area

Semiconductor Engineering, Microelectronic Fabrication, Cleanroom processing & technology, thin films & Nanotechnology

Research Details

Design, Fabricate & characterisation of micro- nanostructure devices using cleanroom technology for energy harvesting & medical applications.









Dr. Marlia binti Morsin

Senior Lecturer marlia@uthm.edu.my

<u>Research Area</u>

Metal nanostructures, sensor, plasmonic, thin film and nanotechnology

<u>Research Details</u>

- 1. Synthesis and characterization of metal nanostructures
- 2. Development of sensor for toxic detection
- 3. Fungi treatment using metal nanostructures



















Dr. Muhammad Anas bin Razali

Lecturer anas@uthm.edu.my

Research Area

Semiconductor Device Fabrication and Process Simulation

Research Details

FinFET simulation process

WE PRODUCE PROFESSIONALS



FAKULTI KE ILIRUTERAAN FLEKTRIK & FLEKTRONI





Ts. Dr. Mohd Khairul bin Ahmad Professor akhairul@uthm.edu.my

Research Area

Advanced Material and process Oxide Thin Film Waste water treatment Dye-sensitized Solar Cell Thermoelectric

Research Details

Titanium Dioxide thin film for Dye-sensitized Solar Cell and waste water treatment Fabrication of Dye-sensitized solar panel Fabrication of FTO film for sensor application









Dr. Rahmat bin Sanudin Senior Lecturer

rahmats@uthm.edu.my

<u>Research Area</u>

Semiconductor Device Modelling and Simulation

Research Details

Carbon nanotube FET Ballistic transport in RTD Mobility in 2D quantum wells









Dr. Nafarizal bin Nayan

Associate Professor nafa@uthm.edu.my

Research Area

Plasma processing and diagnostics Thin film processing and analysis Nano- and microelectronics

Research Details

Thin film deposition using magnetron sputtering plasmas

Nanostructure process using reactive ion etching system

Plasma applications in bioengineering and

WE PRODUCE PROFESSIONALS









Dr. Nabihah @ Nornabihah bt Ahmad

Senior Lecturer <u>nabihah@uthm.edu.my</u> VLSI and Embedded System Technology (VEST) Focus Group

Research Area Analog and Digital *IC Design* Embedded System Design (FPGA, Microcontroller)

Research Details

Low power circuit VLSI implementationASIC and FPGA based designCryptography co-processor (AES, AES-CCM, AES-GCM, ECC, Quantum Cryptography)PLL designSAR ADC designArtificial Intelligence (AI) for image processing, breast cancerHome automation controller designBattery Management System

WE PRODUCE PROFESSIONALS









Load Cell Sen



Dr. Warsuzarina Mat Jubadi

Senior Lecturer suzarina@uthm.edu.my

Research Area Analog & Digital IC Design, Semiconductor Device Modelling, Device fabrication and process simulation, Internet of Things (IoT)

<u>Research Details</u>

- 1. Advanced material pHEMT/RTD/PIN Diode Modelling
- 2. Low Power Low Voltage VLSI Design
- 3. Analog and Digital IC Design for biomedical applications, energy harvesting circuit
- 4. IoT applications
- 5. Terahertz device and mm-wave Application

Click for more details: UTHM Community | Dr. WARSUZARINA BINTI MAT JUBADI







Dr. Jais bin Lias

Lecturer jaisl@uthm.edu.my

Research Area

Thin film fabrication Liquid crystal

Research Details

TiO2 thin film fabrication using CVD method Liquid crystal display display & technology



UTHM Johor

0





Dr. Intan Sue Liana bt Abdul Hamid

Senior Lecturer liana@uthm.edu.my

<u>Research Area</u> MEMS Fabrication Microfluidic Technology Finite Element Modelling

Research Details

Modelling and 3D Microfabrication of polymer-based microfluidic devices (operates on micro/nanoscale liquids); as a platform for chemical, bio-chemical, optical and diagnostic sensing.











Dr. Fariza Mohamad Associate Professor farizamd@uthm.edu.my

Research Area

- 1. Inorganic semiconductor materials
- 2. Thin film fabrication
- 3. Heterojunction & Homojunction thin film solar cell

Research Details

- 1. Inorganic Thin film fabrication using electrodeposition, hydrothermal and spin coating method.
- Fabrication of heterojunction and homojunction thin film for solar cell application.

WE PRODUCE PROFESSIONALS





Electrical Power Engineering Researcher Profile

Faculty of Electrical & Electronic Engineering (FKEE)









Ir. Dr. Muhammad Saufi bin Kamarudin

Associate Professor saufi@uthm.edu.my

Research Area

High Voltage Engineering Gas Discharges Dielectric Material Lightning Phenomenon **Research Details**

Lightning Protection System New gas for insulation purposes Finite Element Modelling



EDITOR: MUHAMMAD SAUFI KAMARUDIN NOR AKMAL MOHD JAMAIL NORDIANA AZLIN OTHMAN FOKUS KUALITI ENDAH ETIKA





Dr. Suriana binti Salimin

Lecturer suriana@uthm.edu.my

Research Area

Power system, Power Quality, Renewable Energy Technologies

Research Details

THD reduction technique in grid network, inverters control method, harmonics analysis, microgrid interaction.







Dr. Siti Amely Binti Jumaat

Senior Lecturer amely@uthm.edu.my

Research Area

Power system, Techno-Economic, Computational Intelligence, Optimization Technique, **Renewable Energy**

Research Details

Transmission System, FACTS Device, Particle Swarm Optimization, EPSO, Optimal Location and Sizing, Optimization Technique in Power System, Prediction of Renewable Energy Data Using ANN.

Color Key: Blue: Transmission Green Distribution Black: Generation Generator Sten Up Transformer Generating Station PV Array







Dr. Mohd Aifaa bin Mohd Ariff

Lecturer aifaa@uthm.edu.my

Research Area

Power System Dynamics Power System Signal Processing Smart grid Renewable Energy Integration Wide-area Measurements System (WAMS)

Research Details

Power System Adaptive Protection and Control Coherency Identification Dynamic Model Parameters Estimation







Ir. Dr. Rahisham Bin Abd Rahman

Associate Professor rahisham@uthm.edu.my

Research Area

High Voltage Insulator, Dielectric Materials, Lightning, Earthing, FEM Modelling, Sustainable energy

Research Details

Outdoor insulator performance, Solid and gas insulation, Nano material, Lighning protection, Finite Element Modelling











Ir. Dr. Erwan Bin Sulaiman

Professor erwan@uthm.edu.m

Research Area

Electric Machine Design Electric Scooter / Electric Vehicle Mobile Power Supply

Research Details



Design, optimization, fabrication and testing of various flux switching machine for fan, submersible pump, lift, electric scooter, electric train and electric vehicle applications. Design and development of mobile power supply for various electrical appliances. Design & optimization of 1-phase/ 3-phase inner / outer / dual rotor FSM. PMFSM, FEFSM & HEFSM for EV, high speed, industrial and home applications. Various stator-rotor combinations with salient and segmental rotor. PM demagnetization, iron loss, copper loss, efficiency analysis. Rotor mechanical stress, structural test & thermal analysis.





Ts. Dr. Mohd Noor Bin Abdullah

Associate Professor mnoor@uthm.edu.my

Research Area

- Power System Optimization
- Optimization Techniques
- Power Dispatch
- Renewable Energy (Solar System)
- Energy Management & Efficiency

Research Details

- Economic and Emission Power Dispatch with high penetration of PV output
- Optimal network reconfiguration and distributed generator
- Modelling of PV Module
- Design and application of PV system

WE PRODUCE PROFESSIONALS





LITHM Johor





Ir. Dr. Nor Akmal Binti Mohd Jamail



Research Area

High Voltage Insulator **Dielectric Material** Condition Monitoring of HV insulator

Research Details

Polymer nanocomposite for dielectric material Polarization and Depolarization Current Measurement (PDC) Tracking insulator performance







Dr. Shamsul Aizam Zulkifli Associate Professor <u>aizam@uthm.edu.my</u> Website: <u>Shamsul Aizam Zulkifli</u>

Research Area

Robust control application Distributed generation in Microgrids Advanced control in power converters

Research Details

H-infinity control application on power converters Droop power sharing in microgrids Virtual synchronous generator Autonomous Smart Grids









UTHM Johor





Ts. Dr. Kok Boon Ching Associate Professor

bckok@uthm.edu.my



Research Area

Energy Harvesting Energy Saving Power Systems Modelling and Analysis



Research Details

The energy harvesting covers all-range of ambient waste energy such as vibration and impact, tree-energy, seawave, solar and pyroelectric. The energy saving is mostly focuses on the power factor correction using microcontroller. Power systems modelling and analysis is mostly applied on HVDC link and industrial power systems.





Dr. Afarulrazi Bin Abu Bakar

Senior Lecturer afarul@uthm.edu.my

Research Area

Advances Power Electronic Converters Resonant Converters (Soft-switching) Renewable Energy Intelligent Controllers

Research Details

Design of advanced power electronic converters, resonant converters (soft-switching), interfaces and energy management strategies for hybrid renewable energy sources. Including artificial intelligence applications and switching signals design using digital control using microcontroller, DSP and FPGA. Software: MATLAB/Simulink, OrCAD PSpice,Quartus II, Control Desk.



UTHM Johor



Ir. Dr. Mohd Fairouz Mohd Yousof

Lecturer fairouz@uthm.edu.my 016 766 4223

Research Area

Condition monitoring of electrical power equipments

Research Details

Diagnostic tests of:

- 1. Power transformer
- 2. HV motor / rotating machine
- 3. Switchgears & power cables
- 4. Transformer oil analysis

https://www.linkedin.com/in/fairouz-yousof-34810939/ https://community.uthm.edu.my/fairouz https://www.scopus.com/authid/detail.uri?authorId=36547024400















Ts. Dr. Asmarashid Ponniran

Associate Professor

<u>asmar@uthm.edu.my</u>

ResearcherID: researcherid.com/rid/M-6877-2017 https://publons.com/researcher/1540669/asmarashid-ponniran/

<u>Research Area</u>

- Power Converters and Control
- HVDC Power System in Datacentre System
- Electric Vehicle (EV) Power System
- Industrial Batteries

<u>Research Details</u>

- Multilevel and Modulor Power Converters Structures with High Switching Frequency Features and Controls
- Achieving High Power Density of Power Converters
- Power Converters with HVDC Capability in Datacentre System
- EV Charging and Traction Converters
- Industrial Batteries Capacity Restoration Technology

WE PRODUCE PROFESSIONALS







\$2,500,000

Ir. Dr. Nur Hanis Binti Mohammad Radzi

Lecturer

nurhanis@uthm.edu.my

<u>Research Area</u>

- Power System Economics
- Renewable Energy
- Energy Efficiency

Research Details

- Transmission Service Charges
- Transmission Usage Evaluation
- Distribution Factors Enhanced Transmission Pricing Method
- Generation Market Model
- Solar-Powered Aquaponics System





MCRNP + Postage-stamp method

CRNP + Postage-stamp method

UTHM Johor





Rohaiza Binti Hamdan

Lecturer <u>rohaiza@uthm.edu.my</u>

Research Area

- Power System Stability
- Renewable Energy
- Control System

Research Details

- Transient Stability Assessment
- Biomass / Solar /Energy harvesting
- Controller Design & Development









UTHM Johor

0





Dr. Nor Hafizah binti Ngajikin Lecturer

norhafizah@uthm.edu.my

Research Area

Optical Devices and Sensors Spectroscopy Micro-opto-electro-mechanical System (MOEMS)

Research Details

Application of optical devices and sensors in biomedical and electrical power engineering













Ts. Dr. Syed Zahurul Islam

Senior Lecturer zahurul@uthm.edu.my

Research Area

Photovoltaic module and energy modeling Sensor and Embedded System Photovoltaic Cooling System Solar Energy for Smart grid/city

Research Details

Novel Water-Air Forced Cooling (WAFC) on Crystalline PV Module for NEM PV Modules Evaluation and Dry Season Energy Yield Prediction Model Incorporating Decentralized Solar Energy in Smart Grid Feasibility Analysis of PV Powered Battery using Sensing Tech for Smart Grid









Dr. Nordiana Azlin Othman

ndiana@uthm.edu.my

ResearcherID: researcherid.com/rid/D-2945-2015 https://orcid.org/0000-0001-8727-559X

Research Area

 Space charge distribution on solid insulation surface for condition monitoring.

Research Details

- Characterization of space charge distribution on high voltage glass insulator under alternating current condition

- Broken insulator effects on charge distributions for cap and pin suspension insulator subjected to HVAC stress







Power switches

Devices (IGBT's)

UTHM Johor

Electrical Power Engineering



Dr. Wahyu Mulyo Utomo

Associate Professor wahyu@uthm.edu.my

Research Area

Electric Motor Drives Power Converters

Research Details

Efficiency Optimization of Variable Speed Drives using ANN Optimum Control of Multilevel Power Converter using ANN Motor Fault Detection using ANN




Voltage Sensor

Li Battery

Fuel Gauge

Real Time Clock

Crystal

Displa

Electrical Power Engineering



Dr. Khairul Anuar Mohamad

Senior Lecturer / Principal Researcher khairulam@uthm.edu.my https://sites.google.com/view/khairulanuarmohamad

Research Area

- Data Driven System
- Energy Harvesting
- Wireless Power Transfer
- Semiconductor Devices

Research Details



- Innovation: Data-driven system using low power SoC boards (cathodic protection system, solar PV system etc)
- Innovation: WPT using resonant inductive coupling
- *Research*: Organic-inorganic devices
- *Research*: Multi-quantum well p-i-n devices

WE PRODUCE PROFESSIONALS



Electrical Power Engineering



Ts. Dr. Ahmad Fateh bin Mohamad Nor

Senior Lecturer afateh@uthm.edu.my https://community.uthm.edu.my/afateh

Research Area

- Renewable Energy
- Artificial Intelligence (ANN,ANFIS)
- Power System Voltage Stability Analysis

Research Details

- Predictiction of PV power output using ANN/ANFIS
- Design/sizing/analysis of PV power system
- Analysing voltage stability (PVQV curve/modal analysis/indices)





Photo by Zbynek Burival on Unsplash

Photo by Benjamin Jopen on Unsplash





Electrical Power Engineering

Ts. Dr. Sim Sy Yi Senior Lecturer sysim@uthm.edu.my

Research Area

Electric Motor Drives Renewable Energy Energy efficiency ANN Optimization

Research Details

ANN Efficiency Optimization of Motor Drives Energy Management PV performance optimization Energy Internet (EI) based BEMS Typhoon HIL

WE PRODUCE PROFESSIONALS





